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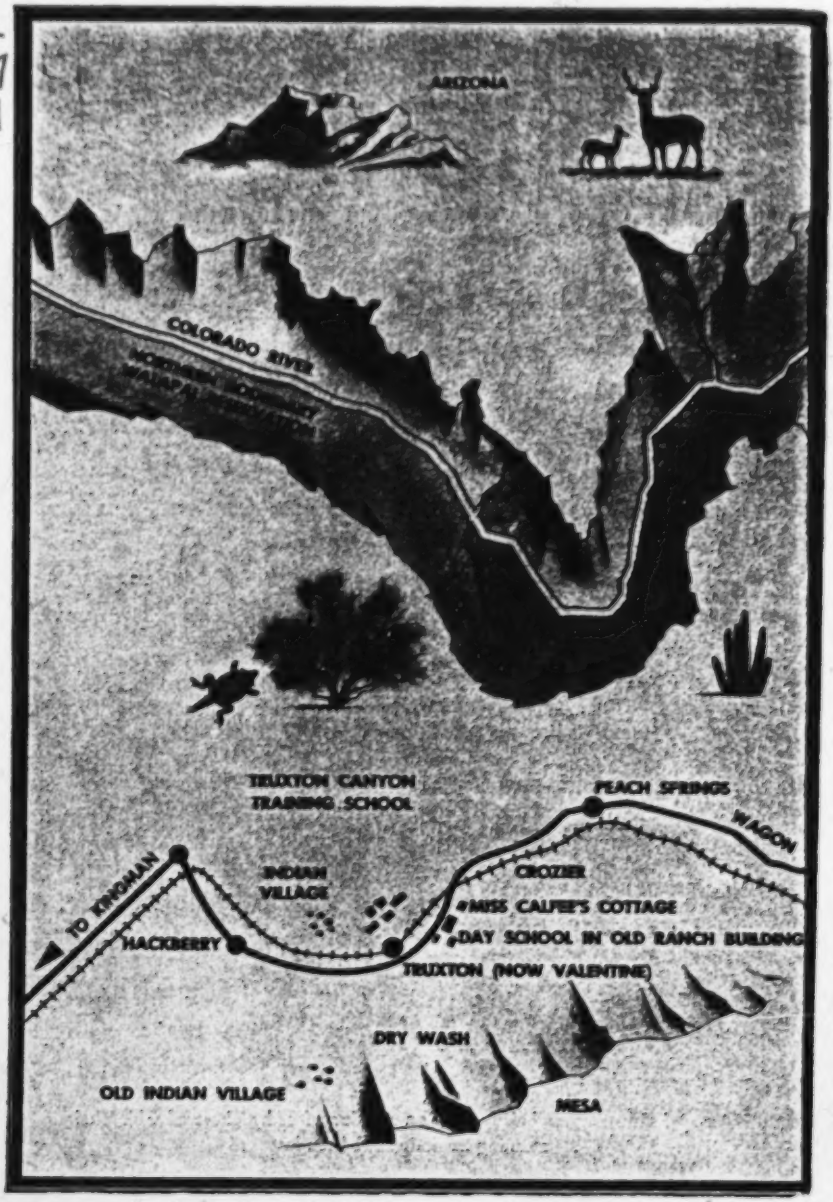

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2:111ff Y-5 (ca.1901) 1954 NT14 Plateau Yumans NT14
Havasupai

487 - We had heard rumours of a secret crack in the canyon wall through
133 which the Indians fled to the outside when pressed by enemy invaders. Immediately we planned to investigate. When Vesnor learned that we intended to go through the passage, he shook his head gravely and cautioned, "Indian moccasin walk trail all right. Think white man shoe no good." Before we were through with the experience we agreed with him.

After a walk of several miles, we stood in a side gorge and gazed up at a long triangular crevice that split the wall to an incredible height. A ledge of stone, fifty feet above the canyon floor, seemed to form the base from which the crack rose to an apex. We realized that this might prove a little more dangerous than some of our other ventures—but if the Indians went through, so could we. It would be worth the climb to stand under the open sky free from sharp, enclosing walls.

[41] Two Indian ladders (logs on which crosspieces of heavy sticks were tied with leather thongs) took us up to the stone ledge. The loose rungs, giving under our feet, swayed the logs threatening to spill us. Shaky from our tussle with the ladders, we pulled ourselves up, single file, onto the stone ledge and faced the entrance to the crevice through which ran the old Indian trail. And behold! this was not the base of the crack at all, but its center—the fissure continued downward so deep into the earth that we could not see the point where its sides met. The trail, a mere edge of stone clinging to one of the close-set walls, ran through the narrow crevice midway between the top and the distant bottom.

Mr. Burnett took one look at the precarious trail, then scrambled down the ladders as fast as he dared to solid ground, where his dog anxiously awaited him. How deserted we felt when he left us to face the dark passage alone! I began to realize that we might encounter unsurmountable difficulties in that thin crack before it landed us somewhere "up above." We stood peering into its darkness, wondering what force had cut this vertical chasm through solid stone. Had a river come in from the plateau, carving its way through the sandstone wall, then disappeared? Or had an earth tremor split the stone apart? A few yards ahead the jagged walls

2:Illiff Y-5 (ca.1901) 1954 NT14 Plateau Yumans NT14
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seemed to reach across and touch, but the entrance was fairly wide. Rather than turn back, we started the climb.

The trail grew narrower as we advanced toward the earth's interior, the light from the entrance dimmer, the walls damper. Then, in the darkness, we came to that tricky section that is dreaded by those who use the trail. The ledge we followed disappeared. There were only rounded knobs on the wall for footholds, slippery with the slime and water that oozed over them. Oh, what a fall we might take! We did as the Indians must have done, leaned across the narrow chasm, pressing our hands against the opposite wall to brace ourselves, and cautiously stepped from knob to knob. We tried to keep our nerves steady by refusing to look down at the close-set, ragged walls which fell away to such terrifying depths. I wanted to get down and crawl, but the knobs were too small, spaced too far apart.

Vesnor had warned us, so we had put on shoes suitable for climbing, but I kept thinking of the moccasined feet that had worn this path, and the surer ease with which they walked. I knew that one misstep would plunge me to those sharp points far below, or farther down to the bottom of the slimy crevice.

After what seemed endless hours, a dim light appeared ahead. It grew brighter as we worked our way toward it. Presently we emerged in a deep, bowl-shaped depression, but a stone roof above the bowl shut out the sunlight.

Miss Goenawein used the Indians' footholds, while Frances and I boosted her up to the surface. Then she pulled and Frances boosted me out of the hole; together, we pulled Frances up. We were bent double under a boulder that would have completely covered the bowl from which we had just climbed, had not this section of its base been broken away. Crawling out into brilliant sunshine reflected from miles and miles of sparkling sand and red bluffs, we were careful not to stray far from this boulder that hid the mouth of the crevice, for there were thousands of others like it strewn over the barren land. We lacked the Indians' instinct to mark a spot so surely that it could never be lost.

Over at the rim, we looked down into the canyon we had so recently left, trying to locate the farmer and his dog, but they were not within sight. We stood about, discussing the Indians' frantic escapes through the crevice, and the fact that now it was a short cut for men who had a few ponies grazing on this level. Then one of the girls, just to hear the racket it would make, pushed a small boulder over the edge. Others followed. As they clattered over the wall, striking projections and bouncing far out into the canyon, the farmer came into view, running for his life, his dog leaping at his heels. We were as frightened as he, for we still could hear the falling stones crashing their way down, and knew that if one struck him, the blow would be fatal. We returned, as fast as the slippery crevice would permit and descended the wobbly ladders to the canyon floor.

The farmer confronted us with blazing eyes. "Those stones you rolled down would have killed me and my dog if we hadn't run with all our might," he exploded.

We tried to explain and apologized, but realized we could never again persuade him to accompany us on an exploring trip.

At our cottage, old Gentle Annie in her accustomed place at the foot of the cottonwood, waited for me. She wore a strawberry-red dress, my dress. She had wanted clothes, but could no longer see well enough to make them. So each time I came within reach, she grabbed my skirt and begged, "Dress, you give 'em." I was obligated, in a way: hadn't she shared her mescal slab with me? So I had given her the brightest dress I owned. She had been effusive in her appreciation, put it on over her other dress and walked proudly home. As I watched her, aged and tired, making her slow way down the path, I thought of the young wife she had been, standing by her man's side, fiercely defending their possessions, their home and her own body from the grasping hands of the enemy. One of these battles was particularly vivid in her memory.

In their younger days, Annie and her man had lived for a time in a cave high up on the canyon wall. In the dark hours of a summer morning, they were awakened by the soft scuff of moccasined feet.

133 a "draw," the real head of the trail was reached. We walked in the closing dusk of day to the edge of the precipice and looked off to where our guide told us we must shortly be travelling. Far below, almost a thou-
133 sand feet, without the sign of a trail, it seemed as if he
491 must be hoaxing us. Soon, however, as we followed him,
487 we found ourselves on a rocky shelf, and then began the most stupendous series of zigzags I had ever been on. Back and forth we wended, our trail a mere scratch on the rocky slope, here descending rugged steps, where a misstep meant sure and awful death. Higher and higher the walls rose around us; darker and darker grew the night; more weird and awesome the wind and weather carved figures sculptured on the sides and summits of the walls, and still down we went. At last we reached a vast cavernous-like place where Topocobya Spring is located. A small flow of water comes from the solid rock, and there we watered our horses and filled up our canteens prior to advancing on our seemingly never-ending descent. At last we reached the level, and there, lighting a fire, made camp and rested before penetrating farther into the deep and mystic recesses of the Havasupais. Early in the morning we began the farther descent. Mile after mile we traversed, first riding on the dry bed of the winter stream, then entering the narrower walls formed by the erosion of centuries through first one stratum of rock, then another. Now we were riding on a narrow shelf, on one side of which was a high wall, and on the other a deep, narrow ravine, in the bottom of which the erosive forces have cut a number of holes,—small troughs or bath tubs in the sandstone, where during the rainy season pools of delicious water may be found. In a short time

3:James T-5 (ca.1900) 1903
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Havasupai

we were riding up or down literal stairways cut in the rock, or rounding "Cape Horns," where we held our breath at the dreadful consequences that would ensue were horse or man to slip. Entering Rattlesnake Canyon our whole course was on a shelving slope of rock, over which even experienced horses tread gingerly. At last we came to the bed of the main canyon, and then for five or six miles we journeyed on, in the sand or the gravelly wash, for the stream that flows through this narrow canyon in storm times has no other law than its own wilful force. To-day we ride in one place, to-morrow's storm changes everything. After numberless twinings and twistings, all of which, however, gave a persistent northwesterly direction to our travelling, we came in sight of a score or so of large and fine cotton-wood trees, whose height far surpassed the smaller mes-quite, cottonwood, and other trees that line much of the canyon's bed. These large trees told us our journey was practically at an end, for here begins the outpour-ing of the numberless springs that make the stream we can already hear rushing in its pebbly bed lower down. Without any premonition they spring out in large and small volume at the foot of some of these trees, and the Havasu — the Blue Water — is made. Every few yards adds to the water's volume, for more springs empty their flow into it. The first and only real buildings are the schoolhouse and the homes of the farmer and teachers, and then, at once, begin the small farms of the Havasupais.

Stand on the slope here, where a mass of talus rises from the trail side, so that we can survey the whole of the picturesque scene. Note its setting! Towering walls of regularly laminated red sandstone, though the

3:James T-5 (ca. 1900) 1903
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133 layers are of differing thicknesses, wind in and out, as
361 if following the meandering course of the stream, and over this the perfect blue of the Arizona sky. These make the most marvellously picturesque dwelling-place of America. Even Acoma's mesa heights and Walpi's precipice-surrounded walls are not more picturesque, and when you add the charm of the verdure nourished by the sweet waters of the Havasu, the picture is complete in its unique attractiveness.

Not even in the Green Emerald Isle, or the county of Devonshire, or the vineyards of France, is richer verdure to be found than fills up the open space between these great walls. Willows reveal the winding path of
133 the Havasu, and everywhere else are the fields of the
241 Indians. Patches of corn, watermelons, squash, cante-
311 loupes, beans, sunflowers, chili, onions, and alfalfa, with here and there peach, mesquite, and cottonwood trees, abound. As a rule these patches are protected and set off one from another by hedges of wattled willows or
● [487] fences of rudely placed cottonwood poles. Through
[312] the fields trails meander in every direction, and they are also "cut up" by irrigating ditches. Some of the better irrigated fields are divided into small sections — like the squares of a checker-board — in order that the water may be more systematically distributed.

342 The peaceful *hawas* of the Havasupais nestle here and there among these verdant growths. Themselves covered with willows, it is often hard to distinguish them from the trees, were it not that at our approach small
[291] groups of men, women, and children, some clad in flaming red, others in all the colors of the rainbow, and some in even less than Mark Twain's descriptive smile, stand forth and reveal the dwelling-places. Now and again

sible — which their traditions say were once occupied by certain families, the names of which are still remembered. All throughout the Grand Canyon region, too, from the Little Colorado River to Havasu Canyon, their cliff-dwellings, and smaller cliff "corn-houses" and mescal pits, are to be found. Indeed, the Havasupais built all the trails that are now being claimed as the work of white men into the heart of the Grand Canyon. The Tanner-French trail, the Red Canyon trail, the old Hance trail, the Grand View, Bright Angel, and Mystic Spring trails, are all old Indian trails. Not only are the cliff-dwellings and mescal pits proof of this, but the Havasupais can tell the families to whom they originally belonged and to whom the rights in them have descended. These rights they rigidly adhere to. It is the white man who knows no law as far as the Indian is concerned, and little by little the aborigine has lost springs, water-pockets, and trails, and is regarded and treated as an unwelcome visitor.

By this it must not be inferred that the Indians built the trails as white men build. In the main their trails were rude paths such as the mountain sheep might make, but in every case they had one of these rude pathways down into the canyon somewhere near to where the modern trails are now located. At the Bright Angel this path was changed when white engineers took hold of it, and at Mystic Spring Mr. Bass had built an entirely new trail, down a different slope, long before he discovered the Indian trail. Both unite near two great natural rock-cisterns, and then deviate below, the Indian trail zigzagging to the left, while Mr. Bass engineered a new trail of easy grade on the talus to the right.

Some of the Havasupais are returning to the cliff-

system on the north and west. From the top of the San Francisco Peaks to the bed of the Colorado River, and within a span of about 60 mi., there is a difference in elevation of roughly 10,000 ft. Elevations on the plateau are between 6000 and 7000 ft., while the Havasupai farmlands lie on the floor of Cataract Canyon at an elevation of 3200 ft. This altitudinal range is accompanied by a change in climate with significant differences in flora and fauna. 133

Geology

The geology of the Grand Canyon, which contains one of the most complete stratigraphic exposures on earth, is a striking feature, but beyond that it is of particular importance in relation to the water supply.

The Coconino Plateau is formed by the Kaibab limestone, which exhibits some karst topography and is extremely pervious. The mountains to the south and east are mainly basalt, being of volcanic origin, and a number of smaller cinder cones dot the landscape. The San Francisco Peaks have no permanent surface streams draining from their slopes, and it has been speculated that subsurface drainage from this area may be one source of the springs which emerge from pervious geologic strata in Cataract Canyon.

The Cataract Canyon drainage system, one of the major tributaries of the Colorado River, drains a region roughly rectangular in shape, approximately 50 mi. wide and some 60 to 70 mi. long, comprising an area of about 3500 sq. mi. Its southern boundary extends from Mt. Floyd and Bill Williams Mountain on the west to the San Francisco Peaks on the east. The area includes a major part of the Coconino Plateau.

Although, in this semiarid climate, the thirsty soil with its struggling plant cover and the underlying pervious limestones of the plateau absorb much of the precipitation, the torrential rains and sudden winter thaws so characteristic of desert country produce flood conditions in the lower canyons, an ever threatening hazard for the Havasupai. [132]

The Cataract Canyon drainage system originates in shallow valleys and deeper arroyos eroding the surface Kaibab limestone. The trellis pattern of arroyos on the plateau channels all run off into two canyons, Lee's and Walapai, which are the major tributaries of Cataract Canyon. The two main horse trails entering Cataract Canyon also follow these two tributaries. [487]

Cataract Canyon is formed by a broad upper gorge defined by the massive Coconino sandstone standing in sheer walls 1000 ft. high. Locally designated the Whitewall (Fig. 1) this prominent cliff has a talus composed of the Hermit shale which gives way to the Esplanade, a broad shelf sloping gently to the rim of the canyon's inner gorge.

4: Smithson E-5 (1951-1958) 1959 NT14 Plateau Yumans NT14
Havasupai

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Fig. 5. Sketch showing Havasupai Indian Reservation in relation to topography.

132 slopes where storage granaries were located and where some families occupied caves and rock overhangs until 30 or 40 years ago. The humidity of the canyon makes the comparatively warmer temperatures there less bearable than those on the plateau. This, along with the scarcity of fuel, combined to make the plateau the favored winter abode.
[361]
[221]

137 Botanically, the plateau and the canyon floor represent the extremes within the Sonoran Life Zone. On the plateau, clumps of juniper predominate along with stands of western yellow or ponderosa pine and pinyon pine. Nearer the canyons, trees give way to sagebrush, grasses, yucca, and a variety of wild food plants including mescal. Prickly pear, yucca, mescal, and some of the other food plants of the plateau,are also found on the Esplanade and at lower elevations. The change in vegetation is a gradual one from canyon rim to floor, with desert plants predominating at the lower elevations. Acacia and mesquite, Mormon tea, agave, prickly pear and other varieties of cacti, yucca, salt brush, and numerous grasses from which seeds were harvested, are found at elevations a few hundred feet above and below the [372] canyon floor. Dense willow thickets border Havasu Creek, and this was the predominant fuel plant in the canyon until introduction of the cottonwood as a winter fuel source in early reservation days. Watercress in abundance and many flowering plants grow along the creek bottom and the irrigation ditches. Below the farm area, in places where the stream is impounded behind travertine terraces, cattail and other marsh plants abound, while only a few feet [276] away the usual desert plants make a sharp contrast. Datura (jimson weed) is scattered everywhere in the canyon's sandy soil; the Havasupai have experimented with it as a narcotic but have rejected it.

133 Reservation farms occupy the canyon floor, which is 1/4 to 1/2 mi. in
361 width. Houses are located on individual farms throughout the area. Fields
312 lie on both sides of the creek, occupying about 140 acres of arable land. Fruit trees, still productive, and scars of abandoned fields mark an area below the village which, until about 20 years ago, was well populated. The canyon floor drops in elevation about 150 ft. from south to north in a distance of approximately 2 mi. in the cultivated area.

● 487 Cataract Canyon formerly was accessible from three directions by means of a half dozen horse trails and several foot trails which entered the canyon close to the village area. Although these old trails are sometimes used at present, the Havasupai more frequently travel the improved Topocoba and Walapai trails, which are used also for packing tourists and supplies into Supai.

245 Peach trees were introduced prior to 1876 (Whiting n. d., 59), and
177 the similarity of the Havasupai term for them to that of the Hopi demonstrates their Hopi origin (Spier 1946, 124). This refutes a popular notion that John D. Lee, a refugee Mormon, introduced peaches in comparatively recent times. Other orchard crops are pears, apricots, apples, both black and white figs,

125 days. The good Padre's brief, but vivid, account of his passage into the
487 canyon from the plateau above anticipates most of the subsequent descriptions of this journey, for it presents a picture of incredibly tortuous trails hanging over horrible abysses. Few visitors to Cataract Canyon have been willing to confess that they did not risk their lives getting there. It is true that some three thousand feet of rock walls surround the canyon floor, but the trails, though rough, are adequate for foot and horse travel. Passing in and out of the canyon is no lark to be sure, but neither is it as grueling an experience as it has often been pictured. It is far more fatiguing than frightening.

131 Throughout the literature on Cataract Canyon, especially that of a more
487 popular nature, the isolation of this place is always emphasized. It may seem so to outsiders, but not to those who live here, for there are at least a dozen trails from the plateau to the village in the canyon called Supai. In aboriginal times, of course, they needed to be suitable only for foot travel, but, since white contact, seven of them have been modified for horse trails. They range in length from eight to fifty miles. Not all of them are constantly maintained, but the Indians are never limited only to the two trails by which most of the outsiders enter and leave. The foot trails are all relatively short, the longest being only three and one-half miles. All of them, however, begin from points on the plateau which are extremely difficult to reach by automobile and are, therefore, restricted to occasional use by the Indians only.

487 The visitor today may approach Cataract Canyon either from Grand Canyon or from Peach Springs on the Walapai Reservation. Grand Canyon may be reached by railroad and Highway 66 passes through Peach Springs. At Grand Canyon one may get a ride with the Indian mailman to Topacoba Hilltop over a road that is hardly a road at all. Twice a week mail is taken by truck from the Grand Canyon post office to Hilltop where it is exchanged for mail coming from Supai. At Hilltop the letters and packages (and visitors, unless they choose to walk) are loaded upon horses and mules. The animals are then turned loose and they dutifully follow the fourteen-mile trail to the village below.

If one chooses to take the Peach Springs route, it is over sixty miles from this little town to Walapai Hilltop, the other point on the rim of the canyon where it is necessary to trade wheels for hoofs. The road

from Peach Springs is a good one and the trail from Walapai Hilltop to the village is only eight miles long. It is this way that most visitors come. 487

The lasting impression one receives when descending any of the trails is one of almost overwhelming awe. The great walls rise higher and higher and as the gorge they enclose grows so narrow that sometimes the sky is scarcely visible, it seems that the canyon has claimed for itself the puny creatures plodding through it. The experience is inspiring, exhilarating and sometimes uncomfortable. To heighten the sensation a hot, dry breeze stirs constantly and except for an occasional desert plant that stubbornly remains green, everything looks as if it hasn't seen water for a thousand years. Just as one begins to adjust mind and body to this oppressive, dry heat, however, the canyon takes another of its endless turns and suddenly the air seems to cool and freshen. At first the senses only suspect this new presence, but after rounding another bend, the eyes and ears confirm it, for a luxuriant growth of small willows and cottonwoods appears and the welcome, singing sound of a stream can be heard. Here, seeping from the canyon floor about a half-mile above the village, is the water that makes Cataract Canyon habitable. As the tiny stream trickles along, many small springs add themselves to it until, a few hundred yards from its birthplace, Cataract Creek is full grown. 133

As the creek hurries busily on through it, the canyon widens abruptly to nearly a quarter-mile across and neatly fenced fields and orchards spread out between the great red walls. This is the village. This is Supai, the home of the Havasupai Indians. 133 361

The village is spread all over the canyon floor. The only concentration of buildings is that of the homes built by the government for the agent and a school teacher. Not far from them is the small schoolhouse, the mission, and the Indian store. The Indians have tended only slightly to cluster about this center of community activity. Many of the aboriginal dwellings have been replaced by small wooden frame houses which were first introduced by the government as a relief measure after the tragic flood in January, 1911, when five days of thaw on the plateau was followed by several more days of heavy rain and the accumulated water rushed through the canyon in a flood crest which utterly destroyed the village and most of the fields. Some of the old earth and pole houses may still be seen. Many of the families prefer them to the more modern ones for 361 (177) 177 342 342

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136 October. Quail and smaller birds, rabbits, squirrels, and a few burrowers constitute the sparse fauna, although along its unscaled cliffs still wanders the bighorn, or *Ovis montana*. No fish or aquatic animals, save the Gila monster and a few lizards, appear. Luxuriant
137 vines and shrubbery; willows, cottonwoods; flags, tules, and other aquatic plants, with a marked absence of grasses, save a kind of cane along the river, and of flowering plants, with here and there the amole, or Spanish bayonet, and agave, — these make up the richly growing but unvaried flora.

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133 Only two trails descend this cañon: the one from the southeast, — by which we entered, — with a southern branch, over which the cavalry had passed; the second from the southwest, winding and climbing through a maze of side cañons, a wonderful example of Indian engineering skill, unsurpassed in grandeur, difficulties, or dangers. The passage of either of these trails, especially of the latter, requires the greater part of the day. From the entrance at the head of the little side cañon, tending down from the southeastward, through which the first-described trail leads, forty turns are made, each one leading further downward, and revealing entirely new views of the indescribably grand and beautiful rock scenery. During all this passage of more than twenty miles, scarcely a place is encountered that a stone's-throw or an arrow-flight would not span, notwithstanding the depth gradually increases to three thousand feet. In some places the rocks overhang the traveler's head on either side, leaving only a narrow strip of sky, while at others the opening assumes a funnel shape: the gray lime sandstone, which forms the upper half of the rock walls, gradually slopes back a quarter of a mile, where it suddenly ascends in a rugged series of promontories, buttes, and cliffs; the red sandstone, which forms the immediate cañon-border, more obdurate, re-

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133 tains its primitive narrowness and angular beauty, only here and there worn by the blasts of rain and wind and sand. These features are characteristic until the last turn reveals a bending plain, in no place exceeding half a mile in width, formed by the junction of the lesser southwestern cañon with the main southeastern, and reinforced by the wearing of the emerging river for ages, — and this is the sandy, loamy plain where the Ha-va-su-paí or Kuhni kwe dwell,
133 and the groves of cottonwood and willows grow. Below the little village,
[361] which numbers about thirty-five huts, are four beautiful cataracts, from which the stream derives its American name. The first two are inconsiderable, although beautiful, sheltered as they are
[137] by thrifty, irregular growths of cottonwood and willow, the forms of which are reflected, and torn into a thousand fragments of green and silver, by the rippling, boiling, surging, rushing waters. The geologic history of these two is repeated in a third and grander fall, a mile or two below the head of the village. Huge rocks have tumbled down to the very water's edge from the cliffs on either side, which here almost meet each other, leaving only a broken path on the eastern bank, difficult for the passage even of foot travelers. The unaided waters have built for their own adornment a horseshoe-shaped, overhanging dam of carbonate of lime, three hundred feet in height, filling in the basin above, to the very surface of the pool, with a confused jumble of petrified trees, mosses, ferns, flags, and what not, preserving only one deep, narrow, serene channel through the middle. And from their stony, dead ancestry spring ever fresh trees, mosses, ferns and flags; their rootlets and dead leaves continually changing to stone, their branches shooting upward to form a network so green and massive that it hides the waters which are at once their life and destruction. Over the top and very

133 edge of this rock-wall springs a dense grove of cottonwoods and willows, with branches so abundant and green and high that they challenge the blue, cloudless sky, which only here and there peeps through them into the waters. The whole Kuhni River spouts forth in a mass of snow and crystal blue from out this marvelous verdure, sprinkling the leaves with its spray in its downward course, — leaves which reveal only now and then the red and yellow of the rock-wall to which they cling. It flattens itself, splits, midway down, on a huge stalagmite of its own making, and sinks into the vast green pool at the bottom, one mass of spray and foam and mist. It is useless to try to paint these falls, with their crown of perennial verdure, their three hundred feet of crystal glory, their footstools of eternal, circling rainbows, which sink far into the clear green depths of the fathomless pools, or rise on the clouds of mist, and turn to ashes and lime on the leaves of the trees around them. You descend a series of niches cut into the vertical rock-wall, and, after slipping and grappling, and covering yourself with lime, skinning your shins and nose, and meditating for a moment on eternity, you find yourself at the bottom. A huge side-cañon comes in from the right, and, joining the main one, widens your view. But what care you for sky and clouds? Are you not face to face with a fairy grotto under the falls, white as snow and streaked with red and yellow? Are you not among the rainbows, even holding your breath to count the glories around you?

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You turn your face from all this, cross the stream on a crust of lime bridging it below the pool, climb a great mound of fallen rocks under the shadow of thick, lime-frosted trees, and make your way with difficulty along the deep, narrow, almost straight, but impetuous channel of the river, through a low, tangled forest, for a mile or two, when you

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221 silks of China or the shawls of Persia by ourselves. All this material is bartered with the Pueblos for blankets and
439 various products of civilization, the former being again traded to the Hua-la-pai for red and black paints, undressed buckskins, and mountain-lion robes. Their red paint, ochre of the finest quality, has such celebrity among Indian tribes that, reaching the Utes on the north, and the Comanches in Texas, it sometimes travels, by barter from hand to hand, as far east as to the tribes of the Mississippi Valley.

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331 The engineering skill and enterprise of this little nation are marvelous. Although their appliances are rude, they are able to construct large dams, and dig or build deep irrigating canals, or durable aqueducts, which often pass through hills, or follow considerable heights along shelves of rock or talus, at the bases of the rugged and crooked walls of the cañon. The acequias, which have their fountain-heads in these canals and viaducts, are wonders of intricacy and regularity; yet on uneven ground are laid out in nice recognition of and conformity to unevenness and change of level in the surface they are designed to water.

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491 Most wonderful of all, however, are their aerial trails. Through the western branch of the cañon, down from the Hua-la-pai country, the trail for horses as well as foot-travelers is over promontories, up shelves, along giddy narrow heights, in and out of recessions, or over stone-pecked slopes, such as would dismay civilized man, with all his means of moulding the rugged face of nature. At times, so impossible does it seem for any living thing to pass further that nowhere can the trail be traced; when a turn to some crack in the rock, almost hidden by intervening bowlders, and hewn down with stone hammers to give precarious footing, shows where it goes up or descends. Great ingenuity is shown in continuing the trail along the

●487 491 bare, smooth face of a cliff which slopes at an angle of forty-five, fifty, even sometimes sixty degrees. The surface, after being roughened, is overlaid with little branches of cedar, upon which larger sticks and stones of great weight are laid, the whole being filled in with dirt and a sufficient quantity of pebbles to guard against washing away. If such a surface be interrupted by a crevice, the two sides of the latter are notched, a fragment of rock fitted in, and the whole covered as before described. Considerable nerve is required, however, to pass these trails. The foothold is always uncertain, and one of these oblique zones, along the centre of which the trail passes, is bounded below by fifteen hundred feet of jagged, rapidly descending rock-masses; above, by two or three hundred feet of beetling, rotten cliffs.

231 Besides their horses, which are adventurers as wonderful as the Indians themselves, through their canon training, they have a few dogs, often wolfish, always mongrel, and six or eight lonely cats, which are extravagantly prized by their possessors, and well fed, yet so worried by dogs and children that they resemble half-starved wild beasts of the feline tribe rather than the descendants of the sleek, domesticated animal of civilization. Not unfrequently beautiful little coyotes are to be seen about [776] the camp, and these, as the emblems of his own ancestry, his national deity, are affectionately fondled and petted by the Ha-va-su-pai; being allowed a place at the family bowl even in preference to the women or children. Add to these certain sand lizards and many noisy birds of prey, kept more for their feathers than as pets, and the list of Ha-va-su-pai domestication is complete.

521 46 During intervals in the labor of the fields, the men may always be seen gathered in groups of six or ten, chatting together; and the women, always busy, exchange visits while at work

[P.554A]

/97/

The Havasupai

133 [131] The home of the Havasupai is in Cataract Cañon, a branch of the Grand Cañon of the Colorado. Without question it is the strangest dwelling place of any tribe in America. In all the long leagues of the cañon's windings there is but one small spot where the gorge widens. Here is an amphitheatre. Its bottom has filled with earth, the weatherings of untold ages, and at the spot where the narrow rift begins to widen the blue water springs from the earth. The clean, clear cut, perpendicular walls of red sandstone tower four hundred feet toward the heavens, and back of these sheet walls are others, but broken, ragged, cut, cañoned, and tumbled into a wilderness of rock, ever mounting higher, until at the cañon's rim one is three thousand feet above the bottom of the chasm in which these people have their home. Standing on the edge and looking down into this bewildering gorge one sees many fanciful forms, fashioned through eons from the world or rock: castles, citadels, pyramids, pinnacles, and sphinx-like sculptures, tinted and mystified with the incomparable atmospheric coloring of the desert, and ever wrapped in death-like stillness. As he gazes there is nothing to suggest that half a mile below and twenty miles away, at the bottom of this awful gash, is a garden spot, and a village of humans.

[131] 487 To reach this little oasis there are but two trails, and he who selects one will wish he had taken the other; both follow routes chosen by prehistoric man. The sandalled feet of unknown generations toiled up and down these tortuous ways ages before there was need of making them accessible for beasts of burden. After hours of winding about sheer cliffs, down narrow gorges, patiently picking a /98/ way back and forth across crumbling rocky slopes, one reaches at last the home of the Havasupai. The floor 131 is half a mile wide, scarcely two miles long, and contains an 133 area of less than five hundred acres. The never-ending stream from which this small but picturesque tribe derives its name, (1)

101 1. The name Havasupai, "Blue Water People," is of Yuman origin, from aha',

179 Southern Paiutes formerly visited and camped in Pai territory (Spier, 1928, 360-2). Our informants reported that some would swim across the Colorado River near Prospect Valley[access to the river may be gained from either side in this portion of Grand Canyon]. Paiutes also crossed in the vicinity of Diamond Creek[a southern Paiute campsite, Ariz. G:3:1 in the Arizona State College Archaeological Survey files, has been recorded at the junction of that stream with the Colorado River] and below there in the vicinity of Granite Park[where Walapai campsites and mescal pits, Ariz. G:3:2 (ASC), have been recorded]. These visits included those during which the Pai were introduced to the 1890 Ghost Dance.

● [487] Hopis also frequented Havasupai villages and there was considerable movement of both peoples on the trading route extending along the south rim of Grand Canyon.

Sacred Places and Spirits

776 778 823 [317] Shrines and sacred places were few, especially outside Cataract Canyon. Spirits were thought to inhabit Gray Mountain on the eastern boundary of their historic range, and a certain rock formation underlying the Coconino sandstone (at the end of the Great Thumb peninsula in Grand Canyon) was visited to make rain. The salt deposits on the Colorado River below the mouth of the Little Colorado were used by the Havasupai but were not considered sacred. The San Francisco Peaks and Mount Sinyella [an isolated sandstone remnant on the esplanade northeast of Supai village], were thought to contain spirits which, if appealed to, could produce rain. People felt afraid to go too close to them. These landmarks were considered dangerous since visitors to them might cause too much rain or strong winds that could blow people off the canyon walls.

823 776 [782] [841] Virtually every spring known to the Havasupai contained spirits. Offerings of tobacco, peaches, or dried corn were made to these water sources, and menstruating women were cautioned against visiting them since the water might disappear. Prayer sticks, however, were not used at springs as was the Hopi custom.

Conception of the Soul

774 Spier (1928, 275) indicated that the Havasupai believed that "Each human has a soul in his heart;..." Our informants confirmed this, virtually denying a separate term for the soul. It was called "the heart" and "works inside with the blood." A person had only one soul. Beyond this, however,

*539 were birds but later turned into Hopi." The boy asked how to get there. His mother told him to cross the open desert, where he would first encounter a big herd of antelope in big open country. "When you see them you will know you are in the right country. Next you will see many rabbits in the brush; know you are going the right way. Next you will see many washes with mountain sheep. Know it is the right way. Next you will pass through wildcat country in cedars [junipers], one or two up in trees. Next you will run into a big herd of deer on a high ridge. Then you will come to lower country, an open valley with a big stream, but not deep, will cover your feet just to your ankles; the next river to cross will be up to your knees; the next will be above your waist, and the fourth will come up to your neck. You must cross four rivers and after that not far on is open desert and more level country. Stop, rest, look around, you may see women gathering grass seeds. That is where the two sisters come to find food." [Except for the reference to four rivers, this [487] constitutes a fairly accurate description of the country along the Hopi-Havasupai trading trail.]

The boy said, "O. K., I'll try to go that way and see if I can find those two ladies. You are all right, my mother, but you are getting old and can't get around like you used to. We need someone to keep house here".

His mother said, "O. K., but be careful. There are many enemies in that country you must cross."

The boy started out, saw Red Butte and antelope herds running in front of him in the desert. He knew he was on the right way, and saw many rabbits. The boy said to himself in song, "If I want to make camp I'd shoot rabbits for food, but my mother's fire would die down so I must make this trip fast and return." So he went on, came through mountain sheep, then wildcats which he saw in nearly every tree; then he came to deer. Each time he saw things he made a song, saying, "I'm on my right way. Next will be the river up to my ankles." He came to it and ran on to the next river. He sang, "I'm on my right way. My mother was right." He came to the third river. Then the fourth. It was deep and he took his clothes off and bundled them on top of his head and crossed. He dressed and traveled a long distance farther. He saw a lone tree on the desert and went to it and rested under it. He looked around the country. Before long he began to smell like animals do, and soon caught scent of people. He thought they were nearby. When rested he started on and went over a high ridge. From there he could see many women moving in his direction. He watched and saw two sisters in front of the others. He thought they were the ones he was looking for. He made a plan as to what